I. AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method of stimulating an earth formation, the formation having a plurality of intermediate zones and a casing through the zones, the intermediate zones having fracture gradients, the casing having perforations, the method comprising the steps of:

(a) pumping fluid into the casing to initiate hydraulic treatment of a first intermediate zone having a first fracture gradient;

(b) using a first instant shut-in pressure to determine the first fracture gradient of the first intermediate zone;

(c) diverting the pumped fluid into a second intermediate zone by using a diverter to block the pumped fluid from the first intermediate zone;

(d) pumping fluid into the casing to initiate hydraulic treatment of the second intermediate zone having a second fracture gradient;

(e) using a second instant shut-in pressure to determine the second fracture gradient of the second intermediate zone;

(f) determining if the pumped fluid is diverted from the first intermediate zone to the second intermediate zone by verifying that the second fracture gradient is greater than the first fracture gradient by a predetermined amount;

(g) dislodging the diverter from the first intermediate zone; and

(h) hydraulically stimulating all of the intermediate zones of the formation.

2. (Cancelled)

3. (Previously Presented) The method of claim 1, further comprising the step of repeating the steps (c) through (e) for an additional intermediate zone of the formation before proceeding to steps (g) and (h) if the second fracture gradient is greater than the first fracture gradient at step (f).

4. (Previously Presented) The method of claim 1, wherein diverting the pumped fluid into the second intermediate zone by using the diverter to block the pumped fluid from the first intermediate zone comprises inserting the diverter into the casing and blocking the perforations adjacent the first intermediate zone with the diverter.

5. (Previously Presented) The method of claim 1, wherein the diverter is selected from the group consisting of ball sealers, rock salt, wax beads, proppant, benzoic acid flakes, foam-based fluid, gelled aqueous-based fluids, and ungelled aqueous-based fluids.

6. (Previously Presented) The method of claim 1, wherein dislodging the diverter from the first intermediate zone comprises unseating ball sealers from the perforations in the casing.

7. (Previously Presented) The method of claim 1, wherein the fluid includes water, treated water, a water-based fluid, a hydrocarbon-based fluid, an energized fluid, an acid, proppant, sand, sand slugs, or a combination thereof.

8. (Currently Amended) A method of treating a formation with fluid, the formation having a plurality of portions and having a casing positioned through the plurality of portions, the portions defining fracture gradients, the casing defining a plurality of perforations, the method comprising the steps of:

treating at least a first portion of the formation regardless of the location of the first portion in the formation relative to other portions in the formation by pumping fluid into the casing;

treating at least a second portion of the formation regardless of the location of the second portion in the formation relative to other portions in the formation by pumping fluid into the casing and diverting the pumped fluid from the first portion;

determining if fluid is substantially diverted from the first portion to the second portion; and

if fluid is substantially diverted from the first portion to the second portion, treating at least a successive portion of the formation regardless of the location of the successive portion in the formation relative to other portions in the formation by pumping fluid into the casing and diverting the pumped fluid from the first and second portions.

9. (Previously Presented) The method of claim 8, wherein the fluid includes water, treated water, a water-based fluid, a hydrocarbon-based fluid, an energized fluid, an acid, proppant, sand, sand slugs, or a combination thereof.

10. (Previously Presented) The method of claim 8, wherein the first portion has substantially the least fracture gradient of the formation.

11. (Previously Presented) The method of claim 8, wherein determining if fluid is substantially diverted from the first portion to the second portion comprises the steps of:

determining a first fracture gradient of the first portion after treating the first portion,

determining a second fracture gradient of the second portion after treating the second portion, and

determining if the second fracture gradient is greater than the first fracture gradient by a predetermined amount.

12. (Previously Presented) The method of claim 11, wherein determining the fracture gradient of either of the first or second portions after treating the portion comprises the steps of measuring an instant shut-in pressure after treating the portion and calculating the fracture gradient of the portion from the instant shut-in pressure.

13. (Previously Presented) The method of claim 8, wherein diverting the pumped fluid from the first portion comprises inserting a diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter.

14. (Previously Presented) The method of claim 13, wherein inserting the diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter comprises determining a number of perforations in the casing adjacent the first portion and determining a quantity of the diverter for blocking the number of perforations adjacent the first portion.

15. (Previously Presented) The method of claim 13, wherein the diverter is selected from the group consisting of ball sealers, rock salt, wax beads, proppant, benzoic acid flakes, foam-based fluid, gelled aqueous-based fluids, and ungelled aqueous-based fluids.

16. (Previously Presented) The method of claim 8, further comprising the step of:
if fluid is not substantially diverted from the first portion to the second portion, stimulating the formation by removing the diversion of fluid from the first portion and pumping fluid into the casing.

17. (Previously Presented) The method of claim 8, further comprising the step of:
determining if fluid is substantially diverted from the first and second portions to the successive portion.

18. (Currently Amended) The method of claim 17, further comprising the step of:
if fluid is substantially diverted from the first and second portions to the successive portion, treating at least another successive portion of the formation regardless of the location of the other successive portion in the formation relative to other portions in the formation by pumping fluid into the casing and diverting the pumped fluid from the previously treated portions.

19. (Previously Presented) The method of claim 17, further comprising the step of:

if fluid is not substantially diverted from the first and second portions to the successive portion, stimulating the formation by removing the diversion of fluid from the previously treated portions and pumping fluid into the casing.

20. (Previously Presented) A method of treating a formation with fluid, the formation having a plurality of portions and having a casing positioned through the plurality of portions, the portions defining fracture gradients, the casing defining a plurality of perforations, the method comprising the steps of:

treating at least a first portion of the formation by pumping fluid into the casing;

determining a first fracture gradient of the first portion;

treating at least a second portion of the formation by pumping fluid into the casing and diverting pumped fluid from the first portion;

determining a second fracture gradient of the second portion;

determining if the second fracture gradient is greater than the first fracture gradient;

if the second fracture gradient is not greater than the first fracture gradient, stimulating the formation by removing the diversion of fluid from the first portion and pumping fluid into the casing; and

if the second fracture gradient is greater than the first fracture gradient, treating a successive portion of the formation by pumping fluid into the casing and diverting the pumped fluid from the first and second portions.

21. (Previously Presented) The method of claim 20, wherein the fluid includes water, treated water, a water-based fluid, a hydrocarbon-based fluid, an energized fluid, an acid, proppant, sand, sand slugs, or a combination thereof.

22. (Previously Presented) The method of claim 20, wherein treating at least the first portion of the formation by pumping fluid into the casing comprises pumping a first amount of fluid into the casing at a first rate.

23. (Previously Presented) The method of claim 22, wherein treating at least the second portion of the formation by pumping fluid into the casing and diverting pumped fluid from the first portion comprises:

inserting a diverter into the casing to block the perforations adjacent the first portion,

pumping a second amount of fluid into the casing at a second rate, and

diverting pumped fluid from the first portion with the diverter.

24. (Previously Presented) The method of claim 23, wherein the second amount of fluid is greater than the first amount of fluid.

25. (Previously Presented) The method of claim 23, wherein the second rate of fluid is substantially equal to the first rate of fluid.

26. (Previously Presented) The method of claim 20, wherein determining the fracture gradient of either of the first or second portions after treating the portion comprises the steps of measuring an instant shut-in pressure after treating the portion and calculating the fracture gradient of the portion from the instant shut-in pressure.

27. (Previously Presented) The method of claim 20, wherein diverting the pumped fluid from the first portion comprises inserting a diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter.

28. (Previously Presented) The method of claim 27, wherein inserting the diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter comprises determining a number of perforations in the casing adjacent the first portion and determining a quantity of the diverter for blocking the number of perforations adjacent the first portion.

29. (Previously Presented) The method of claim 27, wherein the diverter is selected from the group consisting of ball sealers, rock salt, wax beads, proppant, benzoic acid flakes, foam-based fluid, gelled aqueous-based fluids, and ungelled aqueous-based fluids.

30. (Previously Presented) The method of claim 20, further comprising the step of:
determining if fluid is substantially diverted from the first and second portions to the successive portion after treating the successive portion.

31. (Previously Presented) The method of claim 30, further comprising the step of:
if fluid is substantially diverted from the first and second portions to the successive portion, treating at least another successive portion of the formation regardless of the location of the other successive portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the previously treated portions.

32. (Previously Presented) The method of claim 30, further comprising the step of:
if fluid is not substantially diverted from the first and second portions to the successive portion, stimulating the formation by removing the diversion of fluid from the previously treated portions and pumping fluid into the casing.

33. (Previously Presented) A method of treating a formation with fluid, the formation having a plurality of portions and having a casing positioned through the plurality of portions, the portions defining fracture gradients, the casing defining a plurality of perforations, the method comprising the steps of:

treating at least a first portion of the formation regardless of the location of the first portion in the formation by pumping fluid into the casing;

treating at least a second portion of the formation regardless of the location of the second portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the first portion;

determining if fluid is substantially diverted from the first portion to the second portion, comprising the steps of:

determining a first fracture gradient of the first portion after treating the first portion,

determining a second fracture gradient of the second portion after treating the second portion, and

determining if the second fracture gradient is greater than the first fracture gradient by a predetermined amount; and

if fluid is substantially diverted from the first portion to the second portion, treating at least a successive portion of the formation regardless of the location of the successive portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the first and second portions.

34. (Previously Presented) The method of claim 33, wherein the fluid includes water, treated water, a water-based fluid, a hydrocarbon-based fluid, an energized fluid, an acid, proppant, sand, sand slugs, or a combination thereof.

35. (Previously Presented) The method of claim 33, wherein the first portion has substantially the least fracture gradient of the formation.

36. (Previously Presented) The method of claim 33, wherein determining the fracture gradient of either of the first or second portions after treating the portion comprises the steps of measuring an instant shut-in pressure after treating the portion and calculating the fracture gradient of the portion from the instant shut-in pressure.

37. (Previously Presented) The method of claim 33, wherein diverting the pumped fluid from the first portion comprises inserting a diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter.

38. (Previously Presented) The method of claim 37, wherein inserting the diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter comprises determining a number of perforations in the casing adjacent the first portion and determining a quantity of the diverter for blocking the number of perforations adjacent the first portion.

39. (Previously Presented) The method of claim 37, wherein the diverter is selected from the group consisting of ball sealers, rock salt, wax beads, proppant, benzoic acid flakes, foam-based fluid, gelled aqueous-based fluids, and ungelled aqueous-based fluids.

40. (Previously Presented) The method of claim 33, further comprising the step of:

if fluid is not substantially diverted from the first portion to the second portion, stimulating the formation by removing the diversion of fluid from the first portion and pumping fluid into the casing.

41. (Previously Presented) The method of claim 33, further comprising the step of:

determining if fluid is substantially diverted from the first and second portions to the successive portion;

if fluid is substantially diverted from the first and second portions to the successive portion, treating at least another successive portion of the formation regardless of the location of the other successive portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the previously treated portions; and

if fluid is not substantially diverted from the first and second portions to the successive portion, stimulating the formation by removing the diversion of fluid from the previously treated portions and pumping fluid into the casing.

42. (Previously Presented) A method of treating a formation with fluid, the formation having a plurality of portions and having a casing positioned through the plurality of portions, the portions defining fracture gradients, the casing defining a plurality of perforations, the method comprising the steps of:

treating at least a first portion of the formation regardless of the location of the first portion in the formation by pumping fluid into the casing;

treating at least a second portion of the formation regardless of the location of the second portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the first portion;

determining if fluid is substantially diverted from the first portion to the second portion; and

if fluid is substantially diverted from the first portion to the second portion, treating at least a successive portion of the formation regardless of the location of the successive portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the first and second portions; and

if fluid is not substantially diverted from the first portion to the second portion, stimulating the formation by removing the diversion of fluid from the first portion and pumping fluid into the casing.

43. (Previously Presented) The method of claim 42, wherein the fluid includes water, treated water, a water-based fluid, a hydrocarbon-based fluid, an energized fluid, an acid, proppant, sand, sand slugs, or a combination thereof.

44. (Previously Presented) The method of claim 42, wherein the first portion has substantially the least fracture gradient of the formation.

45. (Previously Presented) The method of claim 42, wherein determining if fluid is substantially diverted from the first portion to the second portion comprises the steps of:

determining a first fracture gradient of the first portion after treating the first portion,

determining a second fracture gradient of the second portion after treating the second portion, and

determining if the second fracture gradient is greater than the first fracture gradient by a predetermined amount.

46. (Previously Presented) The method of claim 45, wherein determining the fracture gradient of either of the first or second portions after treating the portion comprises the steps of measuring an instant shut-in pressure after treating the portion and calculating the fracture gradient of the portion from the instant shut-in pressure.

47. (Previously Presented) The method of claim 42, wherein diverting the pumped fluid from the first portion comprises inserting a diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter.

48. (Previously Presented) The method of claim 47, wherein inserting the diverter into the casing to block the perforations in the casing adjacent the first portion with the diverter comprises determining a number of perforations in the casing adjacent the first portion and determining a quantity of the diverter for blocking the number of perforations adjacent the first portion.

49. (Previously Presented) The method of claim 47, wherein the diverter is selected from the group consisting of ball sealers, rock salt, wax beads, proppant, benzoic acid flakes, foam-based fluid, gelled aqueous-based fluids, and ungelled aqueous-based fluids.

50. (Previously Presented) The method of claim 42, further comprising the step of:

determining if fluid is substantially diverted from the first and second portions to the successive portion;

if fluid is substantially diverted from the first and second portions to the successive portion, treating at least another successive portion of the formation regardless of the location of the other successive portion in the formation by pumping fluid into the casing and diverting the pumped fluid from the previously treated portions; and

if fluid is not substantially diverted from the first and second portions to the successive portion, stimulating the formation by removing the diversion of fluid from the previously treated portions and pumping fluid into the casing.